

Organic thin film electroluminescent element - includes charge implanting layer, luminous layer and intermediate layer confg. charge implanting material electroluminescent, etc.

Patient Assignee: NEC CORP (NIDE)

Number of Countries: 001 Number of Patents: 001

Patient Family:

Patient No	Kind	Date	Applicat No	Date	Week
JP 3114197	A	19910515	JP 89253207	A	19890928
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Abstract (Basic): JP 3114197 A

Organic thin film element comprises a pair of electrodes, at least one of which is transparent, at least one charge implanting layer, and at least one luminous layer of organic fluorescent body, laminated between the electrodes. Between the charge implanting layer and the luminous layer, the mixture layer consisting of charge implanting material and organic fluorescent body is inserted. USE/ADVANTAGE - The organic element is used for the large area film full colour display element. Element having high luminescence brightness at comparatively low voltage can be obtd. In an example, transparent electrode (2) was formed on the glass plate (1). Hole implanting layer (3) of N,N',N''-N-tetra-phenyl-4,4'-diaminobiphenyl (diamine), mixture layer (+) of tris-(8-hydroxyquinoline)aluminium and the diamine, and luminous layer (5) of tris(8-hydroxyquinoline)aluminium were laminated. Metallic electrode (6) of Mg and In was deposited on the laminated layers. (4pp)

Dwg.No.1/4)

Title Terms: ORGANIC; THIN; FILM; ELECTROLUMINESCENT; ELEMENT; CHARGE; IMPLANT; LUMINOUS; LAYER; INTERMEDIATE; LAYER; CONTAIN; CHARGE; IMPLANT; MATERIAL; ELECTROLUMINESCENT

Derwent Class: L03; U14

International Patent Class (Additional): C09K-011/06; H05B-033/14

File Segment: CFI; EPI

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ORGANIC THIN-FILM EL ELEMENT

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CHEMISTRY -- Other); 44.9 (COMMUNICATION) -- (Other)

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ABSTRACT

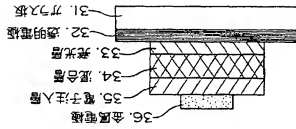
PURPOSE: To provide an EL element having high brightness with low voltage and an excellent light emission efficiency by interposing a layer as a mixture of electric charge implanting material and an organic fluorescent substance between an electric charge implant layer and a light emitting layer.

CONSTRUCTION: A clear electrode 2 consisting of ITO is formed on a glass plate 1, which is followed by formation of three layers one after another-i.e., a pos. hole implant layer 3 consisting of N,N,N',N'-tetraphenyl-4,4'-diaminobiphenyl, a layer 4 as mixture of diamine and tris (8-hydroxyquinoline) aluminum as organic fluorescent substance in the proportion of 1:1, and a light emitting layer 5 using almi-quinoline. Finally a metal electrode 6 is formed by the electron beam evaporation method, and thus an organic thin film light emitting element is accomplished.

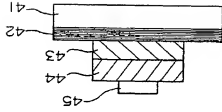
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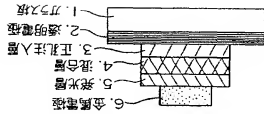
第 3 図



第 4 図



第 1 図



第 2 図

